REMARKS

Claims 11-14 have been cancelled (claims 1-10 having been cancelled previously). New claims 15-17 have been added. No new matter is presented by virtue of the within amendment; support therefor can be found throughout the specification and in the original claims of the application. (See, e.g., the present application at page 2, line 15 to page 3, line 5.)

Applicants also submit that the amendments may be properly entered at this time, i.e., after final rejection pursuant to 37 C.F.R. § 1.116 because the amendments do not raise any new issues or require a new search and they reduce the issues for appeal. For instance, the claims as amended herein are within the scope of prior searches. It is also believed the application is in condition for allowance. Entry of the amendments is earnestly solicited.

Referring now to the Office Action, claim 14 is objected to under 37 CFR §1.75(c), as allegedly lacking proper dependent form. It is noted that claim 14 has been cancelled, thus rendering the objection moot. Withdrawal of that objection is therefore requested.

Claims 11-14 stand rejected under 35 USC §112, first paragraph.

Applicants submit that former claims 11-14 fully meet the enablement and written description requirements of 35 USC §112, first paragraph, for the reasons of record. However, in order to expedite allowance of the application, claims 11-14 have been cancelled in favor of new claims 15-17. It is submitted that the rejection is obviated by the amendments herein, in particular, in view of the newly presented method claims. For instance, independent claim 15 recites a method for treatment of diseases caused by cytokine deficiency comprising administering an effective amount of M161Ag protein, wherein the cytokine is selected from a group consisting of IL-β, TNF-α, IL-6, IL-10 and IL-12.

The claimed methods are amply supported by the specification, such that the skilled artisan could readily practice the full scope of the invention without undue experimentation. Attention also is directed to the enabling disclosure set forth in the Examples of the invention.

In view thereof, reconsideration and withdrawal of the rejection under §112, first paragraph, are requested.

Claims 11-14 stand rejected under 35 USC §112, second paragraph, on the grounds of various alleged informalities.

It is believed that each of the afore-mentioned rejections is obviated by the within amendments. In particular, Applicants have cancelled claims 11-14, and rewritten the subject matter thereof in new claims 15-17.

In view thereof, reconsideration and withdrawal of the rejection under §112, second paragraph, are requested.

The prior art rejections are summarized as follows.

Claims 11-14 stand rejected under 35 USC §102(b), in view of Matsumoto et al. (*J. Exp. Med.*, 1995).

Claims 11-14 stand rejected under 35 USC §102(a), in view of Matsumoto et al. (*Nature Medicine*, 1997).

Claims 11-14 stand rejected under 35 USC §102(a), in view of JP 9-157295 (June 1997).

Claims 11-14 stand rejected under 35 USC §102(b), in view of Rawadi et al. (1996).

Each of the rejections is traversed. None of the cited references teach or suggest the cytokine inducers of the present invention.

For instance, the two Matsumoto references (*Nature Medicine* 1997 and *J. Exp. Med.*, 1995), and JP 9-157295 disclose M161Ag protein which activates the complement pathway and induces the deposition of homologous complement C3. However, these references do not teach or suggest that the M161Ag protein induces cytokine production.

Moreover, M161Ag is a dual functional protein in which the N-terminal domain of M161Ag activates cytokine production via the Toll-like Receptor 2 signaling pathway, and the whole region of M161Ag activates the human complement pathway. Applicants have earlier cited Matsumoto et al. 1998 and Lien et al. 1998, in support of these arguments. Attention also is directed to the arguments presented in Applicants response to the previous Office Action (PTO paper no. 20). Thus, the cytokine inducing ability of M161Ag is clearly not anticipated or otherwise suggested by these references, even if such references were considered in combination.

Rawadi et al. is similarly deficient. For instance, Rawadi et al. disclose that Heat-Inactive Mycoplasma (HIM) particles induce inflammatory cytokines such as IL-1, IL-6, and TNF in monocytes. Rawadi et al. teach that cytokine inducing activity of *M fermentans* is mediated by lipid-associated molecules. Indeed, Rawadi et al. merely refer to "lipid-associated molecules" or "Mycoplasma particles", but provide no description indicating what molecule induces cytokine production. In addition, M161Ag had been earlier misunderstood in the art. In particular, M161Ag was considered not a Mycoplasma gene product but a human gene product, prior to filing of the present application (See Matsumoto et al., 1998, page 12407, right column, line 14-16). Thus, clearly the cytokine inducing ability of M161Ag could not be anticipated by Rawadi et al.

Accordingly, each of the prior art rejections is properly withdrawn. Indeed, in order to anticipate a claim, a single reference must disclose each and every element of the claim. For example, see *In re Marshall*, 198 USPQ 344, 346 (CCPA 1978) ("[r]ejections under 35 U.S.C. §102 are proper only when the claimed subject matter is identically disclosed or described in the prior art.").

In any case, Applicants believe that the amendments submitted herein obviate the rejection. In particular, claims 11-14 have been cancelled. The subject matter of those claims has been rewritten in new method claims 15-17 in order to expedite allowance of the application. Methods of the present invention are clearly not anticipated or even suggested by the cited references for the reasons set forth above and further in view of Applicants arguments made of record to date.

Reconsideration and withdrawal of the prior art rejections are thus requested.

It is believed the application is in condition for immediate allowance, which action is earnestly solicited.

Respectfully submitted,

Christine C. O'Day (Reg. 38,256)
EDWARDS & ANGELL, LLP
P.O. Box 9169
Boston, MA 02209
Tel. (617) 439-4444